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10/616,693

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EXAMINER

CHIEM, DINH D

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHEL J.F. DIGONNET

Appeal 2010-001356
Application 10/616,693
Technology Center 2800

Before JOHN C. MARTIN, ROBERT E. NAPPI, and THOMAS S. HAHN,
Administrative Patent Judges.

NAPPI, *Administrative Patent Judge.*

DECISION ON APPEAL¹

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

This is a decision on appeal under 35 U.S.C. § 134(a) of the rejection of claims 1 through 15 and 49 through 57. An oral hearing was held on January 11, 2011.

We reverse.

INVENTION

The invention is directed to a fiber optic interferometer which has reduced noise due to Rayleigh backscattering, the Kerr effect and the Faraday effect. *See* Specification 1, 4, and 5. Claim 1 is representative of the invention and reproduced below:

1. An optical sensor comprising:
 - a light source having an output that emits a first optical signal;
 - a first directional coupler comprising at least a first port, a second port and a third port, the first port optically coupled to the light source to receive the first optical signal emitted from the light source, the first port optically coupled to the second port and to the third port such that the first optical signal received by the first port is split into a second optical signal output by the second port and a third optical signal output by the third port;
 - a hollow-core photonic-bandgap fiber having a hollow core surrounded by a cladding, the hollow-core photonic-bandgap fiber optically coupled to the second port and to the third port to form an optical loop such that the second optical signal and the third optical signal counterpropagate through the hollow-core photonic-bandgap fiber and return to the third port and the second port, respectively, the cladding of the hollow-core photonic-bandgap fiber substantially confining the counterpropagating second optical signal and third optical signal within the hollow core; and
 - an optical detector located at a position in the optical sensor to receive the counterpropagating second and third optical signals after the second and third optical signals have traversed the hollow-core photonic-bandgap fiber.

REFERENCES

Bergh	US 4,773,759	Sep. 27, 1988
Michal	US 6,108,086	Aug. 22, 2000

Philip Russell, *Photonic Crystal Fibers*, Science, vol. 299, pp. 358-62 (2003), available at <http://www.sciencemag.org/content/299/5605/358.full>.

REJECTIONS AT ISSUE

The Examiner has rejected claims 1, 2, 10 through 15, and 49 through 57 under 35 U.S.C. § 103(a) as being unpatentable over Bergh, Greenway, and Russell. Answer 3-7.

The Examiner has rejected claims 3 through 9 under 35 U.S.C. § 103(a) as being unpatentable over Bergh, Greenway, and Michal. Answer 7 and 8.²

ISSUE

Appellant's contentions, on pages 12 through 15 of the Brief, present us with the issue: did the Examiner err in finding that Russell is prior art and provides the motivation to modify Bergh to make use of a hollow core photonic crystal fiber as claimed.³

ANALYSIS

Appellant's arguments have persuaded us of error in the Examiner's rejection of independent claim 1. The appealed application claims benefit of

² We note that the stated rejection does not include the Russell reference, but does identify that the rejection further modifies the rejection of claim 1. Accordingly we assume that the Examiner meant to include Russell in the rejection.

³ We note that Appellant's arguments present additional issues; however, we do not reach these issues as this issue is dispositive of the appeal for these claims.

a provisional patent application filed on August 20, 2002. The article to Russell was published on January 17, 2003, and as such does not qualify as prior art. Further, while we recognize that the Examiner, on page 5 of the Answer, cites to Russell's discussion of articles published prior to August 20, 2002, the Examiner has not made these articles part of the rejection. As a result, our decision is based merely upon the teachings of Russell on August 20, 2002. The Examiner's rejection relies upon Russell to teach the benefits of a hollow core photonic crystal fiber as support for the rationale as to why the skilled artisan would modify Bergh. Answer 6, 10, and 11. As Russell is not prior art, we will not sustain the Examiner's rejection of independent claim 1 under 35 U.S.C. § 103(a).

Similarly, we will not sustain the Examiner's rejections of dependent claims 2 through 15 and 49 through 57.

ORDER

The decision of the Examiner to reject claims 1 through 15 and 49 through 57 is reversed.

Appeal 2010-001356
Application 10/616,693

REVERSED

ELD

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